Complete Summary

GUIDELINE TITLE

Hernia.

BIBLIOGRAPHIC SOURCE(S)

Work Loss Data Institute. Hernia. Corpus Christi (TX): Work Loss Data Institute; 2008. 43 p. [40 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Work Loss Data Institute. Hernia. Corpus Christi (TX): Work Loss Data Institute; 2007 May 2. 42 p.

The *Official Disability Guidelines* product line, including *ODG Treatment in Workers Comp*, is updated annually, as it has been since the first release in 1996.

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Work-related hernias, including direct and indirect inguinal hernias and femoral hernias*

*__Note__: Indirect hernias and femoral hernias are rarely caused by work and are usually congenital.

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Emergency Medicine
Family Practice
Internal Medicine
Surgery

INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Health Plans
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To offer evidence-based step-by-step decision protocols for the assessment and treatment of workers' compensation conditions

TARGET POPULATION

Workers with inguinal or femoral hernias

INTERVENTIONS AND PRACTICES CONSIDERED

The following interventions/procedures were considered and recommended as indicated in the original guideline document:

1. Laparoscopic repair (surgery)
2. Mesh repair (surgery)
3. Post-herniorrhaphy pain syndrome assessment
4. Post-op ambulatory infusion pumps (local anesthetic)
5. Returning to work
6. Shouldice repair (surgery)
7. Surgery
8. Transverse incisions (surgery)
9. Work modifications/activity restrictions

The following interventions/procedures were considered, but are not recommended:

1. Antibiotic prophylaxis for hernia repair (except when mesh is used)
2. Physical therapy
3. Use of a truss (support) as a long-term treatment

MAJOR OUTCOMES CONSIDERED

- Hernia recurrence
- Postoperative pain and other postoperative complications
- Time to return to work after surgery

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Work Loss Data Institute (WLDI) conducted a comprehensive medical literature review (now ongoing) with preference given to high quality systematic reviews, meta-analyses, and clinical trials published since 1993, plus existing nationally recognized treatment guidelines from the leading specialty societies. WLDI primarily searched MEDLINE and the Cochrane Library. In addition, WLDI also reviewed other relevant treatment guidelines, including those in the National Guideline Clearinghouse, as well as state guidelines and proprietary guidelines maintained in the WLDI guideline library. These guidelines were also used to suggest references or search terms that may otherwise have been missed. In addition, WLDI also searched other databases, including MD Consult, eMedicine, CINAHL, and conference proceedings in occupational health (i.e., American College of Occupational and Environmental Medicine [ACOEM]) and disability evaluation (i.e., American Academy of Disability Evaluating Physicians [AADEP], American Board of Independent Medical Examiners [ABIME]). Search terms and questions were diagnosis, treatment, symptom, sign, and/or body-part driven, generated based on new or previously indexed existing evidence, treatment parameters and experience.

In searching the medical literature, answers to the following questions were sought: (1) If the diagnostic criteria for a given condition have changed since 1993, what are the new diagnostic criteria? (2) What occupational exposures or activities are associated causally with the condition? (3) What are the most effective methods and approaches for the early identification and diagnosis of the condition? (4) What historical information, clinical examination findings or ancillary test results (such as laboratory or x-ray studies) are of value in determining whether a condition was caused by the patient's employment? (5) What are the most effective methods and approaches for treating the condition? (6) What are the specific indications, if any, for surgery as a means of treating the condition? (7) What are the relative benefits and harms of the various surgical and non-surgical interventions that may be used to treat the condition? (8) What is the relationship, if any, between a patient's age, gender, socioeconomic status and/or racial or ethnic grouping and specific treatment outcomes for the condition? (9) What instruments or techniques, if any, accurately assess functional limitations in an individual with the condition? (10) What is the natural history of the disorder? (11) Prior to treatment, what are the typical functional limitations for an individual with the condition? (12) Following treatment, what are

the typical functional limitations for an individual with the condition? (13) Following treatment, what are the most cost-effective methods for preventing the recurrence of signs or symptoms of the condition, and how does this vary depending upon patient-specific matters such as underlying health problems?

Criteria for Selecting the Evidence

Preference was given to evidence that met the following criteria: (1) The article was written in the English language, and the article had any of the following attributes: (2) It was a systematic review of the relevant medical literature, or (3) The article reported a controlled trial – randomized or controlled, or (4) The article reports a cohort study, whether prospective or retrospective, or (5) The article reports a case control series involving at least 25 subjects, in which the assessment of outcome was determined by a person or entity independent from the persons or institution that performed the intervention the outcome of which is being assessed.

More information about the selection of evidence is available in "Appendix A. ODG Treatment in Workers' Comp. Methodology description using the AGREE instrument" (see "Availability of Companion Documents" field).

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Ranking by Type of Evidence

1. Systematic Review/Meta-Analysis
2. Controlled Trial-Randomized (RCT) or Controlled
3. Cohort Study-Prospective or Retrospective
4. Case Series
5. Unstructured Review
6. Nationally Recognized Treatment Guideline (from www.guideline.gov)
7. State Treatment Guideline
8. Other Treatment Guideline
9. Textbook
10. Conference Proceedings/Presentation Slides
11. Case Reports and Descriptions

Ranking by Quality within Type of Evidence

a. High Quality
b. Medium Quality
c. Low Quality

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

The Work Loss Data Institute (WLDI) reviewed each article that was relevant to answering the question at issue, with priority given to those that met the following criteria: (1) The article was written in the English language, and the article had any of the following attributes: (2) It was a systematic review of the relevant medical literature, or (3) The article reported a controlled trial – randomized or controlled, or (4) The article reported a cohort study, whether prospective or retrospective, or (5) The article reported a case control series involving at least 10 subjects, in which the assessment of outcome was determined by a person or entity independent from the persons or institution that performed the intervention the outcome of which is being assessed.

Especially when articles on a specific topic that met the above criteria were limited in number and quality, WLDI also reviewed other articles that did not meet the above criteria, but all evidence was ranked alphanumerically (see the Rating Scheme of the Strength of Evidence field) so that the quality of evidence could be clearly determined when making decisions about what to recommend in the Guidelines. Articles with a Ranking by Type of Evidence of Case Reports and Case Series were not used in the evidence base for the Guidelines. These articles were not included because of their low quality (i.e., they tend to be anecdotal descriptions of what happened with no attempt to control for variables that might affect outcome). Not all the evidence provided by WLDI was eventually listed in the bibliography of the published Guidelines. Only the higher quality references were listed. The criteria for inclusion was a final ranking of 1a to 4b (the original inclusion criteria suggested the methodology subgroup), or if the Ranking by Type of Evidence was 5 to 10, the quality ranking should be an "a."

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

The guideline developers reviewed published cost analyses.

METHOD OF GUIDELINE VALIDATION

External Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Prior to publication, select organizations and individuals making up a cross-section of medical specialties and typical end-users externally reviewed the guideline.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Initial Diagnosis

Direct inguinal hernias are common in the industrial setting. Indirect hernias and femoral hernias are rarely caused by work and are usually congenital. Hernias may be new (60%), recurrent (25%), or bilateral (15%).

Initial Evaluation

First visit: with Primary Care Physician MD/DO (100%)

- Determine the type of lifting episode or incident.
- Determine whether the problem is acute, sub-acute, chronic, or of insidious onset.
- Determine the severity and specific anatomic location of the pain.
- Ask about the ability of the patient to lift.
- Determine any present medication.
- Determine any previous medical history, history of systemic disease, or history of previous hernia or related disability.
- Obtain history of any previous inguinal discomfort or previous hernia repair.
- Investigate non-industrial reasons that commonly exacerbate hernias (i.e., history of chronic cough associated with smoking, history of constipation with straining at stool, and any symptoms of prostatism leading to straining at urination). Note that it is very uncommon for hernias to occur as a result of a fall.
- Obtain family history regarding hernia.

Presumptive Diagnosis (see original guideline document for International Classifications of Diseases, Ninth Revision [ICD-9] codes)

- Direct or Indirect Inguinal Hernia
- Femoral Hernia
- Umbilical and Other Abdominal Hernia

It is unnecessary to differentiate between direct and indirect inguinal hernias; both are treated surgically with similar techniques.

Examine the patient in the standing position and determine the presence or absence of a hernia impulse on coughing or straining.

If a hydrocele is suspected, use transillumination: a hydrocele will transilluminate; a hernia will not. A hydrocele is not usually industrially compensable.

If a hernia is found, examine the patient in the supine position to ascertain whether it is reducible.

An irreducible hernia is not always strangulated. In the standing position, an irreducible hernia will increase in size with straining while a strangulated one will not. There will be other signs and symptoms with strangulation, including the presence of a firm, painful, tender mass in the inguinal region, which is irreducible. It may be associated with signs of bowel obstruction (i.e., nausea and vomiting, abdominal/visceral pain, abdominal distention, absent bowel sounds, history of infrequent bowel movements), fever, and elevated white blood cell count.

Examine for signs of a Richter's hernia (a strangulated hernia involving part of the circumference of the bowel wall)

Imaging techniques such as magnetic resonance imaging (MRI), computed tomography (CT) scan, and ultrasound are unnecessary except in unusual situations.

Examine the opposite inguinal (femoral) region for signs of bilaterality.

Classify the hernia into one of the following diagnoses:

- Reducible hernia
- Irreducible non-strangulated hernia
- Suspected strangulated or Richter's hernia (strangulated hernia in which only a part of the caliber of the gut is involved)

Initial Therapy

1. Reducible Hernia
    - Surgery is not emergent.
    - Consider symptom control with an elastic support or truss, if effective, on a temporary basis (during the preoperative period or within several weeks, not recommended as a long-term treatment).
    - Otherwise, refer for surgical consultation.

Official Disability Guidelines (ODG) Return-To-Work Pathways
Without surgery (truss), light work: 0 days

Note: No time is recommended for heavy work since the truss is not recommended as a long-term treatment.

2. Irreducible Hernia (Not Strangulated or Richter's)

    The treatment of irreducible hernia is surgical, and referral to a surgeon is appropriate.

3. Suspected Strangulated or Richter's Hernia

These are emergent conditions and require prompt referral to a surgeon.

Surgery

Performed by General Surgeon (95%), Specialist (5%)

Urgent repair is required for a sudden, non-reducible hernia or a chronically incarcerated hernia that becomes acutely painful or tender, as this indicates impending strangulation.

Repair of almost all groin hernias is recommended. Inguinal hernias should ultimately be repaired because they enlarge, leading to a more difficult repair and higher risk of complications or recurrence. However, if symptoms are not severe, watchful waiting may be appropriate for as much as a year or two. Femoral hernias should always be repaired because of the high incidence of bowel strangulation. Patients with groin hernias should undergo surgical evaluation within a month after detection.

The three basic approaches are: (1) open repair (the traditional repair, utilizing the patient's own tissue), (2) open tension-free repair using mesh (in which mesh is used to bridge or cover the defect), and (3) laparoscopic repair, a tension-free repair also utilizing mesh. Open techniques of hernia repair can be performed under local, regional, or general anesthesia, while laparoscopic hernia repair requires general anesthesia. Advanced laparoscopic training is required for laparoscopic hernia repair.

For repair of primary inguinal hernia, open (mesh) should be the preferred surgical procedure, unless the surgeon is experienced in the laparoscopic technique.

ODG Return-To-Work Pathways

With open surgery, clerical/modified work: 14 days

With open surgery, manual work: 21 to 28 days

With open surgery, heavy manual work: 42 to 56 days

(See *ODG Capabilities & Activity Modifications for Restricted Work* under "Work" in the Procedure Summary of the original guideline document)

For the repair of recurrent and bilateral inguinal hernia, laparoscopic surgery should be considered. Laparoscopic surgery for inguinal hernia should only be undertaken in those units with appropriately trained operating teams which regularly undertake these procedures.

ODG Return-To-Work Pathways

With endoscopic surgery, clerical/modified work: 7 days

With endoscopic surgery, manual work: 14 days

With endoscopic surgery, heavy manual work: 28 days

Surgery should be performed on an outpatient basis in most cases.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

During the comprehensive medical literature review, preference was given to high quality systematic reviews, meta-analyses, and clinical trials over the past ten years, plus existing nationally recognized treatment guidelines from the leading specialty societies.

The heart of each Work Loss Data Institute guideline is the Procedure Summary (see the original guideline document), which provides a concise synopsis of effectiveness, if any, of each treatment method based on existing medical evidence. Each summary and subsequent recommendation is hyper-linked into the studies on which they are based, in abstract form, which have been ranked, highlighted and indexed.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

These guidelines unite evidence-based protocols for medical treatment with normative expectations for disability duration. They also bridge the interests of the many professional groups involved in diagnosing and treating work-related hernias.

POTENTIAL HARMS

- Postoperative pain and other postoperative complications
- Open surgical techniques (e.g., mesh prosthesis) are associated with a higher risk of serious complication in respect of visceral (especially bladder) and vascular injuries.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

The Treatment Planning sections outline the most common pathways to recovery, but there is no single approach that is right for every patient and these protocols do not mention every treatment that may be recommended. See the Procedure Summaries (in the original guideline document) for complete lists of the various options that may be available, along with links to the medical evidence.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Patient Resources

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Work Loss Data Institute. Hernia. Corpus Christi (TX): Work Loss Data Institute; 2008. 43 p. [40 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2003 (revised 2008 Mar 10)

GUIDELINE DEVELOPER(S)

Work Loss Data Institute - Public For Profit Organization

SOURCE(S) OF FUNDING

Not stated

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Editor-in-Chief, Philip L. Denniston, Jr. and Senior Medical Editor, Charles W. Kennedy, Jr., MD, together pilot the group of approximately 80 members. See the ODG *Treatment in Workers Comp* Editorial Advisory Board.

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

There are no conflicts of interest among the guideline development members.

GUIDELINE STATUS

This is the current release of the guideline.

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The *Official Disability Guidelines* product line, including *ODG Treatment in Workers Comp*, is updated annually, as it has been since the first release in 1996.

GUIDELINE AVAILABILITY

Electronic copies: Available to subscribers from the Work Loss Data Institute Web site.

Print copies: Available from the Work Loss Data Institute, 169 Saxony Road, Suite 210, Encinitas, CA 92024; Phone: 800-488-5548, 760-753-9992, Fax: 760-753-9995; www.worklossdata.com.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Background information on the development of the Official Disability Guidelines of the Work Loss Data Institute is available from the Work Loss Data Institute Web site.
- Appendix A. ODG Treatment in Workers' Comp. Methodology description using the AGREE instrument. Available to subscribers from the Work Loss Data Institute Web site.

PATIENT RESOURCES

The following is available:

- Appendix B. ODG Treatment in Workers' Comp. Patient information resources. 2008.

Electronic copies: Available to subscribers from the Work Loss Data Institute Web site.

Print copies: Available from the Work Loss Data Institute, 169 Saxony Road, Suite 210, Encinitas, CA 92024; Phone: 800-488-5548, 760-753-9992, Fax: 760-753-9995; www.worklossdata.com.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This summary was completed by ECRI on February 2, 2004. The information was verified by the guideline developer on February 13, 2004. This NGC summary was updated by ECRI Institute on March 28, 2005, January 3, 2006, April 6, 2006, November 10, 2006, March 30, 2007, August 27, 2007, and December 22, 2008.

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